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AUTHOR Shapp, Milton J.
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ABSTRACT

This report outlines the current problems of financing education and illustrates how the establishment of a National Education Trust Fund (NETF) by the Federal Government would enable the nation to overcome these problems. NETF, according to the author, would operate on a revolving, self-liquidating basis; and it would finance a major portion of the costs of education at all levels. Recipients would repay their education costs through an education tax that would vary according to the years of schooling received and their income level. The author presents projected costs, enrollments, and the NETF shares of total education expenditures. (JF)

NETF

A Practical Solution to the

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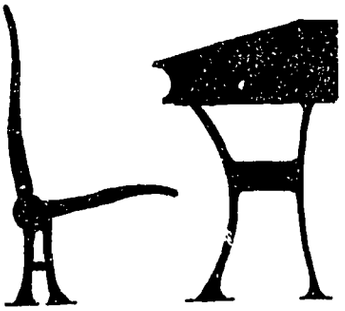


Milton J. Shapp
Governor of Pennsylvania

GOVERNOR

Harrisburg, Pennsylvania

April 14,1972

PREFACE

A Pennsylvania study of a few years ago revealed that 79% of the heads of families on welfare rolls had failed to go beyond the 8th grade in school; slightly over 18% had finished high school, and less than 3% had received any type of post high school training - academic or technical. That situation has not changed radically.

The lesson is obvious.

Either we invest sufficient funds to educate our people so that more of them can become self-reliant citizens, or we continue to pour out an ever-increasing amount of public dollars to sustain those who, because of a lack of education, are unable to participate gainfully in our economic system.

It is obvious too, that if we fail to develop our people, this nation will collapse under the financial burden of maintaining them on a marginal, non-productive level.

A new, practical method must be developed to finance an expanded educational system in the United States.

To meet this challenge, I call for the establishment of a National Education Trust Fund (NETF) by the Federal government.

The concept of the NETF is simple, logical and straightforward. Its operation is consistent with established business principles, following investment principles utilized by our major corporations.

The brief text that follows outlines some of the present problems of financing education and illustrates how NETF would enable this nation to overcome these problems and develop an ever-expanding system of education required to meet the needs of our modern, complex society.

The Need for an Innovative Approach to Educational Finance

The number one problem in education today is finances. Certainly this is true for the local school board forced to stretch its education dollars by firing teachers, eliminating summer school, limiting athletics or outside activities, or extending school holidays.

It is also true for the university trustees who must restrict enrollment and cut financial aid to needy students, the state education agencies confronted by the desperate demands of educators in the largest cities, the governors and the legislators of the states who are forced to weigh the needs of health, environment, justice, transportation, housing, welfare and other needs against those of education, and of the President and Congress who are being pressed to aid our most precious human resources.

This is the view of most taxpayers in the nation. According to the annual survey of education by the Gallup organization, finance is named most often as the major problem confronting the schools.

NETF

The crisis in educational finance has two roots. One is simply that there is not enough money committed to education to meet its ongoing needs. In part, this is due to the severe economic difficulties now confronting our nation and to priority determinations in Washington.

It is also due to an anachronistic system of paying for education. In 1970-1971, 52% of public school revenue was supplied from local sources, 41% from the states and only 7% from the Federal Government.

Virtually all of the local revenue comes from property taxes which are both regressive and inelastic. Because they are inelastic, the revenues from property taxes cannot keep up with the growth in education costs. For every one percent increase in income, property tax revenue will grow by less than 0.8 percent.

Under the current system, the poor, and those with fixed incomes -- notably the elderly -- are forced to finance a disproportionate share of the education of the young.

The states, whose contributions to education have increased from 30% of public school revenue in 1940 to almost 40% today, must also meet soaring costs for many other services such as welfare and crime prevention although these costs are largely out side of the control of the states.*

Our colleges and universities face similar problems since they, too, rely heavily on state aid. In addition, they rely on student fees which can be raised only at the risk of excluding large segments of our society from this important route to economic and social mobility.

Second Root of the Problem

The second root of the financial crisis in education is the issue of equal educational opportunity. The issue was stated clearly by the California Supreme Court last August when it held that state's public school financing system to be unconstitutional. The Court said that the funding scheme, which relies heavily on local property taxes, "invidiously discriminates against the poor because it makes the quality of a child's education a function of the wealth of his parents and neighbors." There have been parallel decisions in Minnesota, New Jersey and Texas, and suits are pending in a number of other states.

The constitutional issue centers on the use of local property taxes to finance education. Because the value per pupil of property in some districts is many times that in others, it is possible for wealthy districts to raise large sums of money for education with little effort (i.e., a low tax rate) while poor districts, especially in our major urban centers, are not able to match the sums even with very great effort.

While the quality of education is not solely dependent on the number of dollars spent, money certainly is an important factor. Indeed, it is the poorest

* Pennsylvania's share of meeting public school costs is above the average of all states. In 1971-1972, The Commonwealth paid 49.3% of the cost of primary and secondary public school education.

school districts (the inner cities and rural areas) which have the highest proportions of disadvantaged pupils who require special and compensatory education. In the wealthy areas, primarily the suburbs, education is often supplemented in the home and community without direct cost to the taxpayers. Equalizing educational opportunity thus depends on local ability to finance education as well as on local need.

It is ironic, though understandable, that the money crisis in education has become acute in a period in which there probably will be little growth in the number of pupils in schools. Indeed, enrollment in all schools for kindergarten through twelfth grade, after rising dramatically in the 1960's, is projected to drop by 4% in this decade while costs, excluding construction, are projected to rise 22% by 1980. In higher education, costs are projected to rise faster than enrollment. Costs will increase 84% during this decade while enrollment rises only 53%.

Public school districts across the nation are feeling the effects of the crisis. In cities such as Philadelphia, New York, and Chicago, it is becoming increasingly difficult to complete the full school year because of the shortage of funds. Thus the effects of deterioration in education are being felt most by those with the greatest problems and the least ability to deal with them.

Alternative Approaches

The *Wall Street Journal* has noted that if the crisis in educational financing requires action, it also demands caution and an understanding of the educational process. Some of the suggestions offered may only serve to worsen present problems.

One response to the crisis is the proposal that the states assume up to 100% of the costs of public education. This would eliminate the dependence on local property taxes.

Financing education at the state level, however, is not a simple matter. The Advisory Commission on Intergovernmental Relations has estimated that, based on 1969 data, it would cost the states $13 billion to fund 90% of the cost of education. This would mean an average increase in state expenditures of 31% across the nation, a staggering figure.

The ACIR sees a doubtful outcome if states rely exclusively on sales and personal income taxes.

Most states are finding it extremely difficult under present circumstances to finance the portion of education they have already assumed and simultaneously continue to provide the rest of the services required by the people. To expand their tax bases, the states could collect statewide property taxes, but to do so would simply transfer to the state the disadvantages and inequities of the local property tax. This would also add substantially to the present bureaucracy by adding a layer of state supervision to the present level of municipal and county employes.

Further, property taxes are regressive, they pose both real and political difficulties in achieving equalized assessments, they reduce the possibility of

property tax relief, they are expensive to administer, and they do not grow as fast as national income.

A second tax possibility, under serious consideration by the President, is to increase Federal funding of education through a national Value-Added Tax. While the Federal Government should indeed assume a larger share of education costs, the Value-Added Tax is not the proper vehicle since it is extremely regressive and inflationary. It is not an exaggeration to describe the VAT as the worst possible type of tax for this nation. With our system of manufacturing, which utilizes a large share of outside purchased components and subassemblies, VAT would be more inflationary than in other nations in which manufacturers make all or almost all of their parts and assemblies.

A third possibility that has been suggested is for local governments to increase their share of funding of schools by increasing non-property taxes. This is totally unrealistic. What possible new local tax could bear the costs of public education without denying other essential services to the public? Further, enacting such a tax at the local level would serve to drive away industry and reduce other tax bases in the community.

Even if one could be found, this would still tend to tie a child's educational opportunity to the wealth of the community in which he happens to reside. Districts with low per-pupil property valuations also tend to have lower average incomes, lower sales, lower almost everything except costs and taxes.

The alternatives usually put forth for financing higher education also fall short of the mark. Federal tax credits for tuition and deferred tuition proposals favor wealthier families. Also, both open the door for colleges and universities to further increase tutition, which in the last decade grew almost twice as fast as enrollment.

Investment in People

Let's face this fact: the alternatives to financing increased demands for education do not exist in any plan based upon increasing taxes derived from any presently available source.

Let's also face the fact stated in the preface: there is a genuine need for a major increase in funds to support education or else this nation will spend considerably more in the future for welfare and crime control problems that would undeniably be the result of our failure properly to educate the children of today.

The basis for an innovative approach to finance education is this: *the conventional thought that education is a "cost" of government to be borne along with the costs of welfare and crime prevention must be discarded.* Until we do, we shall not resolve the crisis.

We must consider money spent on education to improve the quality of our labor force and the ability of our citizens to lead satisfying lives as an investment by government, not a cost of government. If our funds are invested wisely, this will result in a more productive labor force, earning a higher average income.

Such a labor force will be able to pay higher taxes and thus return the investment, and more besides.

Our national experience with the G.I. Bill after World War II proves the point. Veterans educated through this program have had higher lifetime earnings. Taxes collected on their larger incomes have repaid to the treasury of the United States the modest investment in their education many times over. Many years of tax yield are still remaining.

An investment in education is an investment in people which will create new jobs and future growth. It will pay added dividends in the form of reduced costs of welfare and crime prevention since it will enable more of our citizens to escape the frustrations of poverty and ignorance.

Adopt Business Principles

But we must not attempt to fund such an investment out of current operating income. No major American corporation tries to finance long term investments out of current operating revenue. If it did, it would soon be bankrupt.

It takes 13 to 20 years for the returns on our investment in education to be realized. Today, we are financing both public and higher education out of current tax revenues. This is the main reason why so many of our cities are going broke and our states are in such horrible financial condition. It is a main reason too, why education is so seriously underfunded.

Need for Federal Financing

Neither the benefits of education, nor the ultimate handicaps of its inadequacy, are limited by school district or state boundaries. The Federal government obviously must play a larger role. Also, only the Federal government has the resources for the needed massive investment. At present, education costs make up about 7% of our Gross National Product. In our evolving post-industrial society, education must play an ever more potent role.

Increased federal funding need not upset the basic responsibility which the states have for education under our system of government, nor change the nature of local control.

Massive federal support is needed to strengthen education in all of the states, and this of course will greatly strengthen us as a nation. It would also turn the phrase "equal educational opportunity" into reality and end the rhetoric.

Federal Support Could Strengthen Local Leadership

Not the least of the major advantages of federal financing is that it would make possible a better realization of local control over the process of education. Local school boards now spend most of their time on fiscal matters -- balancing budgets, raising taxes, and selling bonds. If this tremendous burden were removed from their shoulders, they would be able to concentrate on the real

issues of education: what and how our children are learning, and is their education relevant?

There can be little doubt that all types of education will undergo drastic changes in the coming years. The question is whether these changes will be dictated by financial constraints or by our desires to make education more meaningful for students and for society as an entity. Only if we resolve the financial issues will we be able to deal effectively with the educational ones.

We can solve our financial problems. This wealthy nation can afford to finance a meaningful educational system for all its people. Actually, it cannot afford not to do so for, as indicated previously, survival of America as a nation is at stake.

The National Education Trust Fund

A National Education Trust Fund (NETF) should be created as the vehicle for the required massive educational investment. It would operate as the present Federal Highway Trust Fund does, on a revolving, self-liquidating basis. The Fund would finance a major portion of the costs of education at all levels, from pre-primary through graduate, including technical, adult, and manpower retraining education. When in full operation there would be little need to restrict its investment scope since the return on investment would increase at a rate greater than the rate of investment.

Recipients would repay their education costs through an education tax on income. The tax would vary according to the years of schooling and income, so repayments would be in proportion to benefits received. With the proper rate-of-return structure, in time the NETF would become more than self-sustaining, and either the tax could be reduced or service offered by NETF could be expanded almost without limit.

NETF would also be the vehicle for continuing Federal aid to education to meet national needs. For example, Federal appropriations for education programs might be distributed through the NETF to underwrite specific national security programs.

Since the aim of the Fund is to invest in people and not in buildings, it would contribute only to the direct costs of education and not to other expenses such as construction.

The NETF would be a major force for equalizing educational opportunity throughout the nation. Gross inequities characterizing the present system could be largely overcome by channeling funds through the NETF. Decreasing, or even eliminating, the dependence of public education on the local property tax will reduce the wide variations in local effort and ability to support education which have tended to make the quality of a child's education dependent on the wealth of his family and neighbors.

This is in accord with a National Educational Finance Project recommendation that "The number of dollars spent on education should be based on the educational needs of the children rather than the wealth of the school district."

Assessing Individual Needs

To do this, the NETF will have to develop a basis for assessing individual needs and the costs of meeting them.

Such an approach could be formulated by assigning weights to the per pupil costs of various types of education. For instance, setting the cost of educating an average elementary pupil as a base of 1.00, the National Educational Finance Project found that the cost of educating a physically handicapped pupil is 3.25, that of a youngster in a compensatory education program at 2.00, a kindergarten child at 1.30, and a senior high school student at 1.40.

These particular weights may require further study since they are based on "representative best practice" of the present system, which is a bad one, rather than on objective assessments. This weighting plan also allocates more funds to secondary education than to primary but the latter may produce a higher rate of return since there is greater benefit from secondary schooling where primary education is effective.

Post-secondary school financing might also be based on a system of weights reflecting the costs of various types of training. Perhaps greater weight should be given to "critical needs" such as medicine, or to social service or trade skills, thereby encouraging young people to enter these fields. In any event, the NETF promotes the philosophy that access to higher education - whether academic or vocational - should be based on talent and motivation and not on wealth.

Actually, it is the ability of NETF to supply a larger level of funding to the poorer school districts rather than the wealthy districts that is one of the chief advantages of the plan in addition to its self-liquidating factors.

Educational Control

Present responsibility for public and higher education will be unaltered by the NETF. The NETF need not be involved in the administration of education nor concerned generally with what subjects are taught in the classrooms. It will, however, promote accountability on the part of educators, students, and the general citizenry.

The Fund will have to determine what expenditures will be needed per pupil in various districts and institutions of higher learning to insure a "minimum acceptable level of education." This will be the basis for its allocations and will serve as a guide to educators and citizens on education costs. It will also serve to further nationwide equalization of educational resources.

Since the repayment feature of the plan means that students after graduation will pay for a major share of the cost of their own education, they will be more likely to evaluate relative costs and benefits. Because each year of education will increase the payback rate, education, especially at the post-secondary levels, will be more subject to cost-benefit analysis by its recipients than at present.

This should also encourage more efficient development of our education resources since a student will be more serious about his education and more likely to remain in school only as long as he expects real benefits from his education.

Funding

If it should be decided that NETF fund 50% of the cost of primary-secondary education along with continued state funding at the present 40% level, this would mean that about 90% of the direct costs of this level of education would be provided by non-local sources.* According to the Advisory Commission on Intergovernmental Relations, using a 50-40 ratio of contribution would free about $16 billion at local levels. This money could be used for financing local needs other than education (police, fire protection, trash removal, cultural programs, park and recreation, etc.) which ought to have greater emphasis. Actually, in many local districts all of these extra services could be furnished and taxes still lowered.

Even if there should not be any direct tax relief with the initiation of the NETF, it would most certainly allow for holding the line on tax increases, which is definitely a major step in the right direction.

Repayment plan

Money advanced by the NETF to cover the cost of an individual's education would be repaid through a progressive education tax on income, according to the beneficiary's earnings and number of years and type of schooling. The repayment plan is based on the assumption that since the benefits of education accrue largely to the individual in the form of increased income, status, and desired life style, they ought to be paid for out of career earnings greatly increased by his educational attainment.

An income floor below which no education tax would be made would insure that repayment would not become a burden to anybody. The progressive rates would continue the subsidy that Federal government financing now provides to educate the poor and those who enter lower-paying social service occupations.

A ceiling would limit the progressivity of the tax and insure that it would not cause unfavorable selection in higher education by deterring those from wealthy families.

Repayment would be made when the beneficiary could best afford it -- on his years of highest earnings. In years when an individual had little or no income he would not be taxed. Nor would beneficiaries over 65 pay the tax. Collection of the tax with the Federal income tax would require little additional administrative effort or cost.

By contrast to what is proposed under NETF, the present system levies most of the cost of education on adults who pay not for their own education but for that of their children or someone else's children. The present financing system is particularly unfair to senior citizens who may have no direct benefits.

Financing through NETF would also end the present inequity whereby the poor pay to educate others, then have to pay high rates to obtain the services of those whom they have thus supported up the educational ladder.

Employers would also benefit greatly from educational improvements. This is evident by the number of them who now finance continuing education and on-the-job training of their employes. NETF would take this into account by

* There is nothing fixed about the suggested 50-40-10 ratio of funding. A more detailed analysis of cost-benefit ratios might indicate that some of other ration of NETF-state-local contribution would be more practical. The 50-40-10 ratio is used in this analysis as an example.

receiving from employers an amount for each individual employe. In turn, employers would benefit from the reduced property taxes and reduced need to pay to train their workers.

Individuals and empoyers are not the only ones who would benefit from improved educational opportunities. Increased productivity is an example of a general benefit.

But even more, NETF will lower welfare and crime prevention costs and develop a more informed citizenry. Thus, the whole of society will benefit.

Since this is so, some of the costs of education should continue to be borne by the general public. Paying for construction costs of schools from general revenues is one method to achieve this. This could be done by continuing to pick up the debt service on the sale of school bonds through general funds.

Establishment of the NETF

Since NETF envisions a massive investment in education, it can hardly spring into full operation overnight. It is proposed that the Fund begin with the participation of 10% to 20% of all students the first year, adding 10% to 20% each succeeding year. In this way the Fund would be in full nationwide operation within 5 to 10 years.

(It took far less time to establish an educational system to train 15 million men and women during World War II.)

Such a plan would require an investment of $4-8 billion the first year. It might begin by funding such crucial areas as pre-school and manpower retraining programs as well as college seniors and graduate students, since the latter have already made a substantial investment in their own education and the Fund could provide the "boost" to insure its completion. Also, repayments to the Fund would start quicker since this group of students is on the verge of entering the labor force.

Under this proposal, NETF could begin operation in 1973.

The next section of this text deals with the cost data. By 1980-81 the NETF would be contributing approximately $39-49 billion to education costs at all levels. During this time period, 55% of the funds could be allocated to primary-secondary education, 36% to higher education, and 9% to other programs. As indicated previously, even before 1980, funds would begin flowing back from those now in high school and college who would have begun their work careers.

Thus, the self-liquidating feature of NETF would become evident within a few years of start-up.

COST DATA

The data in this section indicate cost estimates for NETF for the suggested start-up period of 1973 through 1980-1981. In most cases, projections of enrollment and education expenditures are from unpublished data supplied by the National Center for Educational Statistics of the Office of Education. They are consistent with the latest population projections of the U. S. Bureau of the Census based on a low fertility assumption (series D) published in November 1971. The presentation includes overall estimates of costs to the NETF based on two models of start-up which assume the participation of either 20 or 10 percent of students the first year and the addition of 20 or 10 percent annually. These models might represent upper and lower limits of the start-up. They are consistent with a recent study of higher education funding, an Educational Opportunity Bank, which used a rate of 16 percent.

Graph 1 indicates that pre-primary enrollments will nearly triple to 4.4 million children by 1980 while costs will rise from $1.3 billion to $4.7 billion, in 1970-1971 dollars. These data are based on the assumption that average per-child costs for pre-primary education will be the same as for primary-secondary education. The results are not inconsistent with an estimate by the National Educational Finance Project that the cost of providing full-day education for all children between the ages of three and five will be about $4.22 billion in 1980, in 1968-1969 dollars, assuming a substantial increase in the quality of programs.

Graph 2 outlines the impact of the NETF of financing 90% of the cost of pre-primary education. Assuming 10% of the children participate the first year and 10% more each succeeding year, the cost would range from $200 million in 1973 to $3.4 billion in 1980-1981 when 80% would participate. With 20% participation, the costs would range from $400 million to $4.2 billion, with 100% participation in 1977 and thereafter.

While projected enrollments in public and non-public primary and secondary schools will actually decline by about 4% through the decade, current expenditures are projected to rise 22% from $42.6 billion in 1970 to $51.9 billion 10 years later (Graph 1). Table 1 shows that these figures, which exclude enrollments and expenses of independent nurseries and kindergartens, yield projected rises in per-pupil costs from $829 in 1970-1971 to $1,055 ten years later, all in 1970-1971 dollars.

Graph 2 indicates how much of these costs would be financed by the NETF if it were to pay 50% of the direct costs of primary- secondary education. Beginning in 1973, the Fund would pay between $2.3 billion, assuming 10% initial participation, and $4.6 billion with 20%. In 1980-1981 it would pay between $20.8 billion and $26.0 billion. The alternate models would insure that the NETF paid for from 17-29% of the direct costs of education over the decade.

Enrollments in institutions of higher education -- including degree and non-degree students, resident and extension students who are working toward bachelor's or higher degrees, and students taking occupational studies programs preparing for a technical, semiprofessional or craftsmen-clerical positions -- are expected to rise from 8.6 million in 1970 to 13.2 million 10 years later. The

direct costs of education are expected to rise almost 84% from current levels of $15.5 billion to $28.5 billion in 1980 (Graph 1).

The availabilty of NETF funds will probably stimulate further enrollment above the projections since it will provide a new source of money to educate those students who cannot now afford the substantial costs of higher education. Table 2 includes two models of the effects of NETF enrollments and costs. The first assumes that with the beginning of NETF in 1973, enrollments and expenditures will rise 1% a year for five years, i.e., 1% the first year, 2% the second, etc., then level off at 5% above current projections. The second model assumes a 2% yearly rise for 5 years, then a leveling off at 10% above current projections. This means that the direct costs of higher education may be as great as $32.9 billion by 1980 vs. $28.5 billion without NETF.

The NETF is not expected to have any effect on per-student costs which are expected to rise in any case from current $1,805 yearly to $2,155 in 1980, an increase of 19% in constant dollars (Table 1).

Graph 2 indicates the cost of NETF financing 60% of the expenditures for educational purposes and related activities in higher education, assuming no change in present enrollment growth rates. Table 2 shows the costs of NETF induced growth.

With 10% of the students participating the first year and 10% more each year, the NETF would pay $1.2 billion of the cost of higher education in 1973 and between $13.7 and $15.8 billion in 1980. The lower amount assumes no NETF-induced growth over current projected enrollments and the higher, a 2% NETF-induced growth factor.

With 20% of the students participating the first year and 20% more each year, the costs would be $2.4 billion in 1973 and from $17.1 to $19.7 billion in 1980, the lower figure with no NETF-induced growth and the higher, with a 2% growth factor.

The 10% or 20% levels of participation reflect the possibility that the NETF may choose to advance money initially only to those in the final year of post-secondary studies and/or in areas of critical occupational needs. They also recognize that the orderly implementation of the NETF probably would require a gradual phasing in. The Fund would provide from $1,147 to $1,293 per student in constant dollars for higher education (Table 1).

Total NETF financing for higher education would range from $58.6 to $100.9 billion through the decade. *This sum for investment in our people is far less than our anticipated expenditure for military programs during this same decade.*

Enrollment and cost projections for adult basic education and manpower retraining programs have not been developed as yet. The data in Table 3, however, indicate that total expenditures on these programs in recent years have been less than $1 billion annually.

Thus, even assuming NETF funding of 90% of the costs and a doubling of expenditures in this area, manpower retraining and adult basic education would not have a significant impact on overall cost estimates for the Trust. For the

purpose of overall cost and repayment calculations, it is assumed that NETF obligations in this area would average $1 billion yearly through the decade, an expenditure that must be made to prevent the obsolescence of people.

Conclusions

The foregoing data suggests the following conclusions:

1. Over the 1970-1980 decade, the cost of higher education is projected to rise from $15.5 to $28.5 billion, almost 84%. Primary-secondary education costs are projected to rise from $42.6 to $51.9 billion, only 22%. New sources of funding are therefore most needed for higher education.

2. Although projected basic education costs exceed those of higher education, per-pupil costs for higher education are over twice as great.

3. It is assumed that starting in 1973 the Fund would grow between 10-20% yearly, depending on the amount of money available from the Fund, national priorities in education, and other factors. The 10% and 20% participation rates should be viewed as lower and upper limits rather than alternative proposals for Fund implementation. If the Fund begins in 1973, it could be in full operation sometime between 1977 and 1981.

Table 4 indicates the cost of operating the NETF will range between four and eight billion dollars the first year, 1073. This will grow to between 39 and 49 billion dollars in 1980-1981.

Reimbursement

It is a fundamental goal of the NETF to apportion the costs of education to individuals on the basis of the benefits they receive. Beneficiaries would thus pay an education tax in accordance with their income and schooling. This deferred user tax recognizes that benefits of education accrue largely to the individual in the forms of increased income, status, and a desired life style. Individuals will repay to the Fund in proportion to the extent to which they utilized the educational system.

The actual reimbursement plan would be based on a flexible combination of revenue from several sources. In order to facilitate examination of reimbursement, assumptions have been made. First, it is anticipated that the NETF would operate on a pay-as-you-go basis, that is, income would provide enough to pay current obligations, administrative costs, and some reserve. Second, to simplify, it is assumed that the Fund was in full operation in 1970 and that the present population aged 25-65 had moved through school under the NETF and was fully obligated to pay for its operation.

Because the tax would be based on both income and education received, it has an important income contingency feature: payment would be made when the individual could best affort it.

In years of low income, no tax would be paid. In addition, those over 65 would pay no such tax. Young people could be exempted for their first few post-school years to allow them to serve in the armed forces, Peace Corps or other similar social service, and also to establish a career.

An income floor should be set, perhaps at $3,000 per individual, below which no tax would be required. Establishing a tax ceiling, say at $50,000, would insure that the tax did not cause unfavorable selection by deterring those from wealthy families from going on to higher education. Such a level would still be sufficiently high that it would insure that the high earners would return the investment NETF has made in them and pay a fair share towards those who have derived little or no income improvement from their education.

An education tax of this type also overcomes one of the major difficulties with the property tax as education's basic support. Long-term national income growth is anticipated at about 2.6% annually. Since the NETF tax would be progressive, its yields would grow at a somewhat higher rate. This contrasts with the property tax yield which increases only about 80 cents for each dollar of growth in national income. With education costs rising faster than national income, the only way to avoid steadily and steeply rising tax rates is to substitute a more elastic tax for the present property levy.

Other Benefits

Collecting the education tax in conjunction with the Federal income tax minimizes administrative effort and cost, thus also reducing the amount that would have to be collected. Since it would be collected nationally, it would also overcome the population mobility factor which limits the feasibility of any one city or state raising its education revenues in a similar fashion.

Linking the education tax to benefits received will have several indirect benefits for both students and schools. It has already been noted that this will cause students to weigh the costs and benefits of additional years of schooling. This should further lead them to choose programs they think will be most advantageous and to utilize educational resources more effectively. It may even promote the restructuring of post-secondary education, where costs have risen one and one-half times as fast as enrollments in the last decade. This could include developing new programs and new kinds of educational institutions, reformulating the general education curricula, and shortening the time required for a student to receive a degree. All this tends toward the improvement of our educational efficiency.

Additional Revenue Sources for NETF

In addition to individual and employer contributions, the Fund could receive support from general Federal revenues. In 1970, the Federal Government contributed 11.7% to the expenditures at all educational levels, about $7.7 billion. This money could be channeled through the Fund, taking advantage of the opportunity-equalizing distribution system which would be an NETF feature.

Graph 3 summarizes NETF costs for the years 1970-1980, assuming full operation under the prepared guidelines. Note that the projections for post-secondary expenditures have been inflated by 5% to account for the expansion of higher education which probably will take place under NETF.

In 1970 the NETF share of the costs of education would have been $33.3 billion. In order to develop a detailed tax schedule and to determine whether the NETF was feasible from the point of view of reimbursement, these 1970 costs - plus a margin of 10% - were taken as a target. Both examples assume that the education tax would be paid by individuals rather than by families or households because this is a straightforward approach.*

The data were obtained from the U.S. Census Bureau rather than from the Internal Revenue Service returns since only the former has income-education matrices; thus the tax rates given below are not exact, but they do give an approximation of rates if the trust were operating at this time.

The examples assume an income floor of $3,000 below which no individual would pay any tax, and a tax ceiling at $50,000 above which the tax rate would no longer rise with income. They differ only insofar as they tax spouses who have little or no individual income. Both examples contain assumptions that employers would contribute 33.3% of the cost of the NETF and general Federal Revenues 11.7%.

In the first example, each individual pays his own tax, based on income and years of schooling, with the costs of spouses who earn less than the income floor being borne by all paying beneficiaries. Tax rates would range from .06% for someone who earned $3,000 and completed only one year of pre-kingergarten education - a theoretical but not real lower limit - to 10.3% for someone who earned $50,000 or more and completed four years of college and four years of graduate or professional school. A typical individual who had completed high school and reported an Adjusted Gross Income (AGI) of $6,600 (about the mean for employed individuals with that education in 1970) would pay 2.7%.** A beneficiary who had completed four years of college and earned $10,500 (about the mean for this group) would pay 5.3%. Four years of graduate education would add about another 1.8% to this individual's tax. The tax rate is progressive along two dimensions: income and years of schooling. For example, the tax for an individual with a high school education would vary with his income as follows:

Income	Tax Rate on AGI
$ 5,000	2.29
$10,000	3.47
$20,000	4.02

* Work is now inder way on examples based on family income which, though more difficult to calculate, probably would be easier to administer.

** The Census Bureau definition of income is similar to,though not the same as, Adjusted Gross Income. Thus these tax rates are only approximate.

For the $10,000-income individual, the tax would vary with education:

Years of Schooling	Tax Rate on AGI
Grade 10	3.00
Grade 12	3.47
College 4	5.30
Graduate 4	7.13

In this example, 1970 income-education data yield would have been:

Individual education tax	$20.1 billion
Employer contribution	$12.2 billion
General revenue	$ 4.2 billion
	$36.6 billion

In the second example, the obligation of the spouse who has little or no income is apportioned to his marriage partner or to all beneficiaries, depending on the income of the partner.

Unmarried individuals would pay an education tax based on their own income and years of schooling as in the first example. For married taxpayers the tax would work like this: A principal earner whose income was more than $8,000 and whose spouse earned less than the mean for all women ($3,500 in 1970) would pay a tax based only on his own income and education and his spouse's tax, based on her schooling and his income; if the spouse earned more than $3,500 she would pay her own tax based on her income and schooling and he would pay his. If his income was less than $8,000, the principal earner would be responsible only for his own tax; if his spouse earned more than $3,500, she would pay her own tax based on her income and schooling; if she earned less than that amount, her share would be made up by all paying beneficiaries.

For example, take the case of a typical individual who was unmarried or with a working wife and who had completed high school. If he reported an Adjusted Gross Income of $9,000 (about the mean for employed males with this education in 1970) his tax would be 2.4% (vs. 3.23% in the first example). However, if this individual were married and/or had a wife who didn't work, he would also be obligated for her education tax, another 2.4% if she had a high school education. Thus he would pay a total of 4.94%, compared with 3.23% in the first example.

A beneficiary with a college education earning $13,000 (about the mean for employed males in this education group) would pay 4.04%, and an additional 4.04% if his spouse with the same education were not employed. In the first example his tax would be 5.30% whether or not he were married.

In comparison with the first example, this one levies lower taxes on

unmarried individuals and married individuals with lower incomes, while levying higher taxes on married individuals with higher incomes and non-working spouses.

Keep in mind that if one of these hypothetical examples was already in operation, these would not be financial burdens in excess of everything already being carried. The educational system is in operation and is being funded.

If the $36.6 billion dollars used as an example were actually raised by this alternate means, $32.4 billion dollars currently being raised by the property tax and other taxes would not be levied.

It is assumed the $4.2 billion general Federal revenues would continue to be collected in the present manner.

This could constitute major tax reform, especially for those of limited income and education, or advanced age, who now must bear frequently inequitable burdens to maintain our schools. It would also represent major tax reform for industry, particularly property tax reform.

As indicated, there are numerous ways in which this proposal can be adjusted for maximum effectiveness in terms of financial considerations and national priorities.

It is obvious from the above text that NETF offers a practical method of solving the financial crisis of supporting all levels of education in this country. Much more work must be done to determine maximum investment levels for each type of education and equitable levels of return to keep the Fund self-liquidating.

But NETF definitely offers a valid solution to the problem of financing all levels of education in the United States.

Table 1 Projected Costs of Education—Total and NETF Shares, 1970-80 (1970-71 Dollars)

	Total Per Pupil Costs		N E T F Share		
	Pre-Primary * and Primary-Secondary	Higher Education	Pre-Primary, 90% Funding	Primary-Secondary, 50% Funding	Higher Education, 60% Funding
1970	829	1,805			
1971	871	1,847			
1972	892	1,883			
1973	911	1,911	820	456	1,147
1974	930	1,951	837	465	1,171
1975	953	1,984	858	477	1,190
1976	971	2,010	874	486	1,206
1977	994	2,049	895	497	1,229
1978	1,014	2,075	913	507	1,245
1979	1,035	2,114	932	518	1,268
1980	1,055	2,155	950	528	1,293

* Excludes expenses of independent nurseries and kindergartens.

Source: Calculated from data supplied by the U. S. Office of Education. Cost per pupil figures for pre-primary were assumed to be the same as for primary-secondary, however NETF shares of pre-primary and primary-secondary costs differ.

Table 2 Higher Education — The Effects of NETF - Induced Growth (1970-1971 Dollars)

	Maximum NETF Share of (Billions of Dollars)			NETF Contribution to Cost/Student (Dollars)	NETF Cost at 10% Initial Participation and 10% Increment (Billions of Dollars)			NETF Cost at 20% Initial Participation and 20% Increment (Billions of Dollars)		
	W/Out NETF Induced Growth	With NETF Growth			W/Out NETF Induced Growth	With NETF Growth		W/Out NETF Induced Growth	With NETF Growth	
		1% Growth Enrollments	2% Growth Enrollments			1% Growth Enrollments	2% Growth Enrollments		1% Growth Enrollments	2% Growth Enrollments
1973	11.8	11.9	12.1	1,147	1.2	1.2	1.2	1.2	1.2	1.2
1974	12.7	13.0	13.3	1,171	2.5	2.6	2.6	5.1	5.2	5.3
1975	13.6	14.0	14.5	1,190	4.1	4.2	4.3	8.2	8.4	8.7
1976	14.4	15.0	15.5	1,206	5.8	6.0	6.2	11.5	12.0	12.4
1977	15.2	16.0	16.7	1,229	7.6	8.0	8.4	15.2	16.0	16.7
1978	15.9	16.9	17.5	1,245	9.5	10.0	10.5	15.9	16.9	17.5
1979	16.6	17.4	18.2	1,268	11.6	12.2	12.7	16.6	17.4	18.2
1980	17.1	17.9	19.7	1,293	13.7	14.4	15.8	17.1	17.9	19.7
Total	117.3	122.1	127.5		56.0	58.6	61.7	92.0	96.2	100.9

Table 3 Adult Basic Education and Manpower Retraining - Enrollment and Costs

	Manpower Retraining[1]		Adult Basic Education[2]		Total	
	Number (in millions)	Cost (in billions of current $)	Number (in millions)	Cost (in billions of current $)	Number (in millions)	Cost (in billions of current $)
1966	0.177	0.39	0.378	0.04	0.555	0.43
1967	0.150	0.33	0.389	0.03	0.539	0.36
1968	0.140	0.32	0.456	0.04	0.596	0.36
1969	0.135	0.25	0.485	0.05	0.620	0.30
1970	0.130		0.536	0.05	0.666	

[1] Includes institutional and on-the-job programs under the Manpower Development Training Act. Costs are calculated from Federal appropriations which are 90 percent of total expenditures. Data is from Statistical Abstract of the United States, 1968 and 1970.

[2] Under Title III of the Elementary and Secondary Education Amendments, 1966. Source: National Center for Educational Statistics. Adult Basic Education Statistics, 1968-1969. Costs are calculated from Federal appropriations which are 90 percent of total expenditures.

Table 4 Summary of the Cost of Operating NETF — 1973-1980 (Billions of 1970-1971 Dollars)

	10% Participation					20% Participation				
	Pre-Primary	Primary-Secondary	Higher Education 1 (1% NETF Growth Factor	Adult Basic Education & Manpower Retraining	Total	Total	Pre-Primary	Primary-Secondary	Higher Education2 (1% NETF Growth Factor)	Adult Basic Education & Manpower Retraining
1973	0.2	2.3	1.2	0.1	3.8	7.6	0.4	4.6	2.4	0.2
1974	0.4	4.6	2.6	0.2	7.8	15.7	0.8	9.3	5.2	0.4
1975	0.7	7.1	4.2	0.3	12.3	24.5	1.4	14.1	8.4	0.6
1976	1.0	9.5	6.0	0.4	16.9	34.0	2.1	19.1	12.0	0.8
1977	1.5	12.2	8.0	0.5	22.2	44.3	3.0	24.3	16.0	1.0
1978	2.0	14.9	10.0	0.6	27.5	45.9	3.3	24.7	16.9	1.0
1979	2.6	17.7	12.2	0.7	33.2	47.5	3.8	25.3	17.4	1.0
1980	3.4	20.8	14.4	0.8	39.4	49.1	4.2	26.0	17.9	1.0
Total	11.8	89.1	58.6	3.6	163.1	268.16	19.0	147.4	96.2	6.0

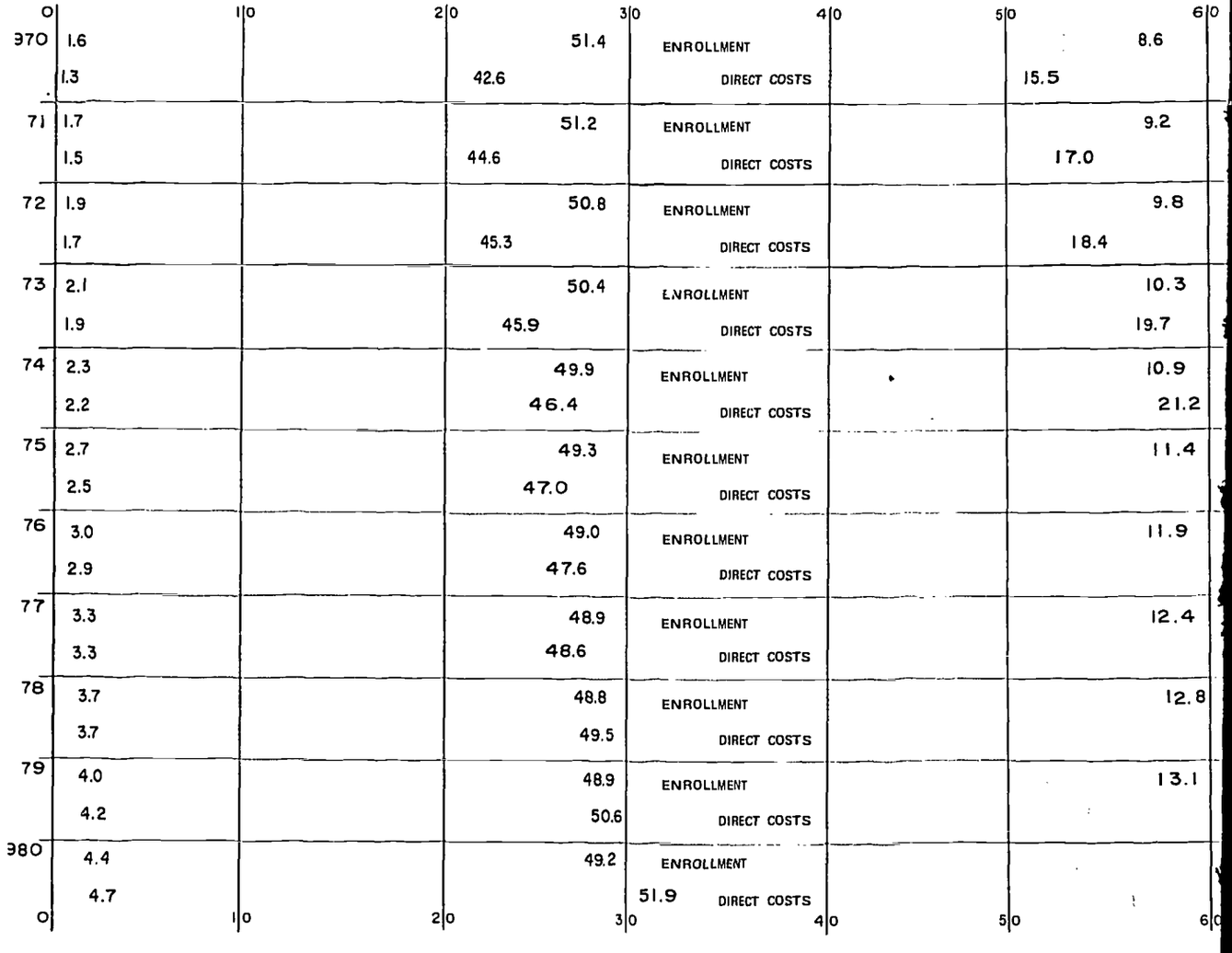
[1]At 2% NETF growth factor, there would be no difference in costs in 1973 and $1.4 billion additional cost by 1980.

[2]At 2% NETF growth factor, there would be no difference in costs in 1973 and $1.8 billion additional cost by 1980.

Source: Prepared by the Office of State Planning and Development based on data supplied by the U. S. Office of Education.

ENROLLMENTS AND DIRECT COSTS OF EDUCATION

ENROLLMENT (Millions of Students) 1970 - 1980 DIRECT COSTS (Billions of 1970-71 Dollars)



NURSERY SCHOOLS AND INDEPENDENT KINDERGARTEN

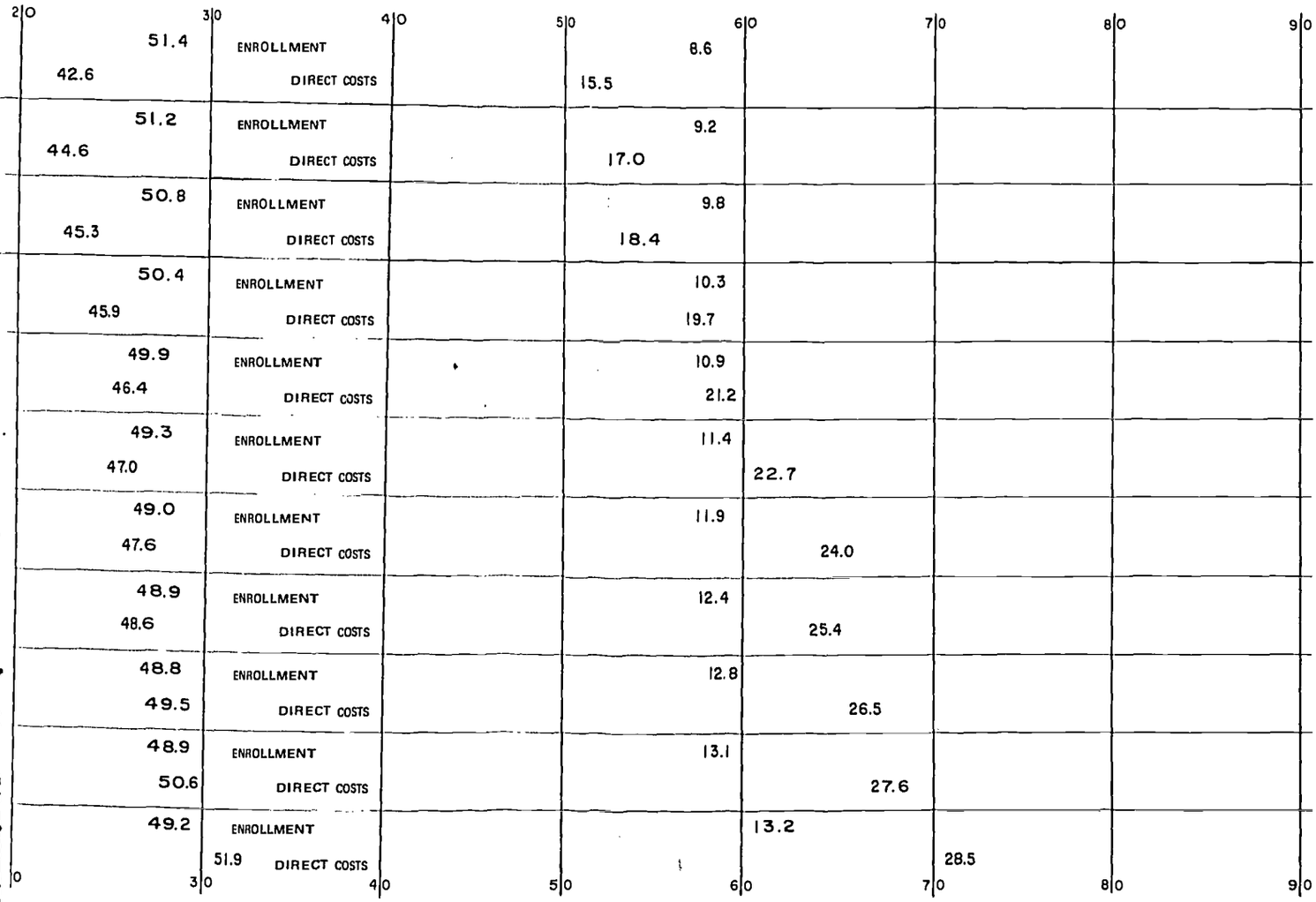
PRIMARY AND SECONDARY SCHOOLS INCLUDING REGULAR KINDERGARTEN

Source: Unpublished data supplied by the U.S. Office of Education.

ENROLLMENTS AND DIRECT COSTS OF EDUCATION

GRAPH 1

ENROLLMENT (Millions of Students) 1970-1980 DIRECT COSTS (Billions of 1970-71 Dollars)



PRIMARY AND SECONDARY SCHOOLS INCLUDING REGULAR KINDERGARTEN

HIGHER EDUCATION, DEGREE-CREDIT AND NON-DEGREE CREDIT COURSES

-PROJECTED FOR PUBLIC AND NON-PUBLIC SCHOOLS, ALL LEVELS-

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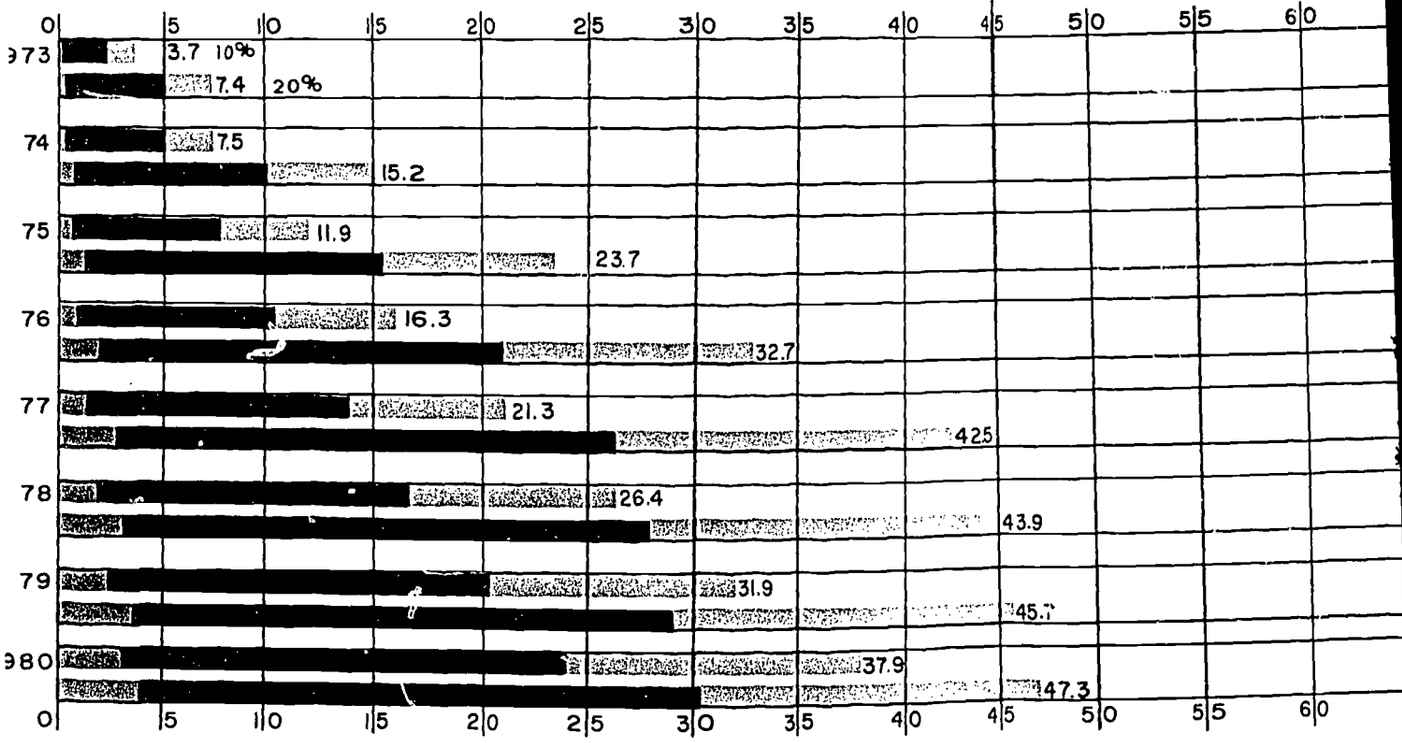
NETF SHARES OF TOTAL EDUCATION EXPENDITURES

(AT 10 PER CENT AND 20 PER CENT GROWTH)
BILLIONS OF 1970-1971 DOLLARS



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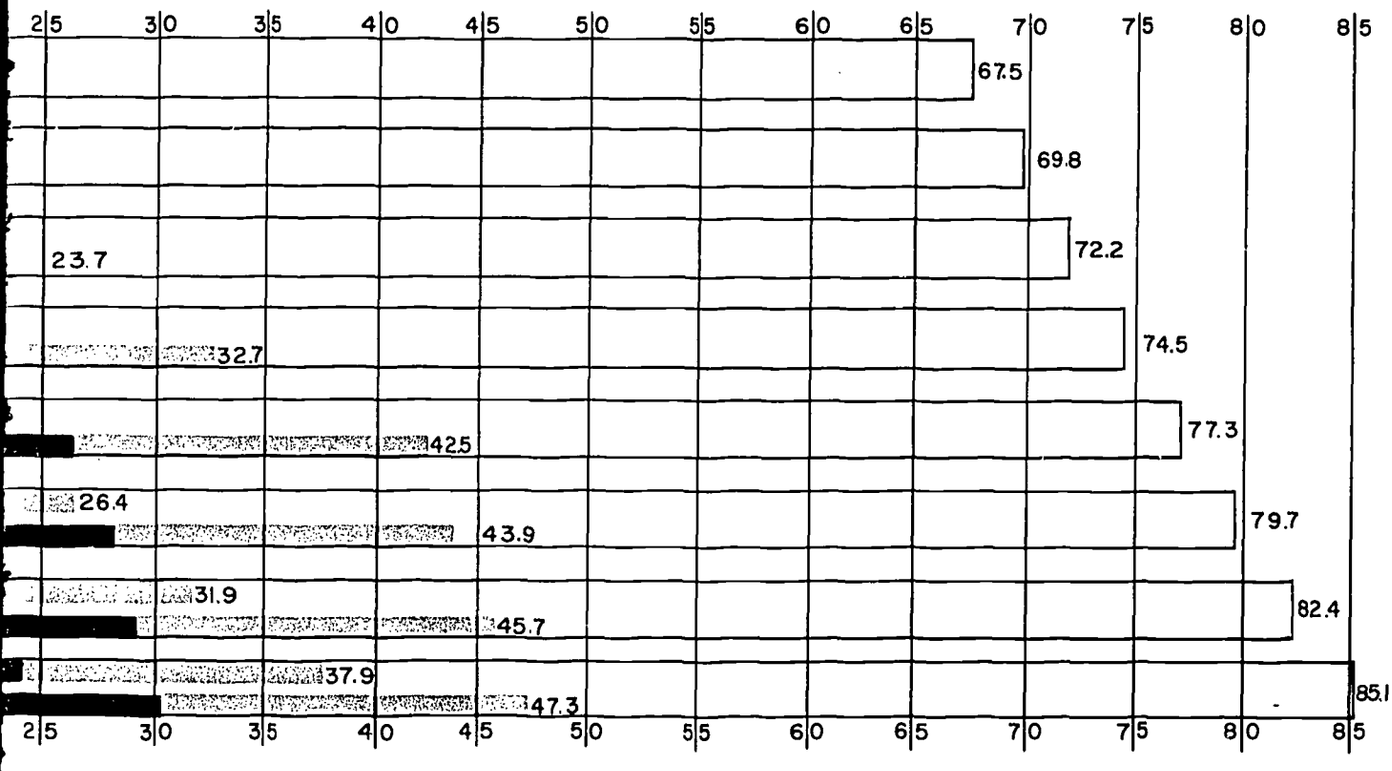
ETF SHARES OF TOTAL EDUCATION EXPENDITURES

GRAPH 2

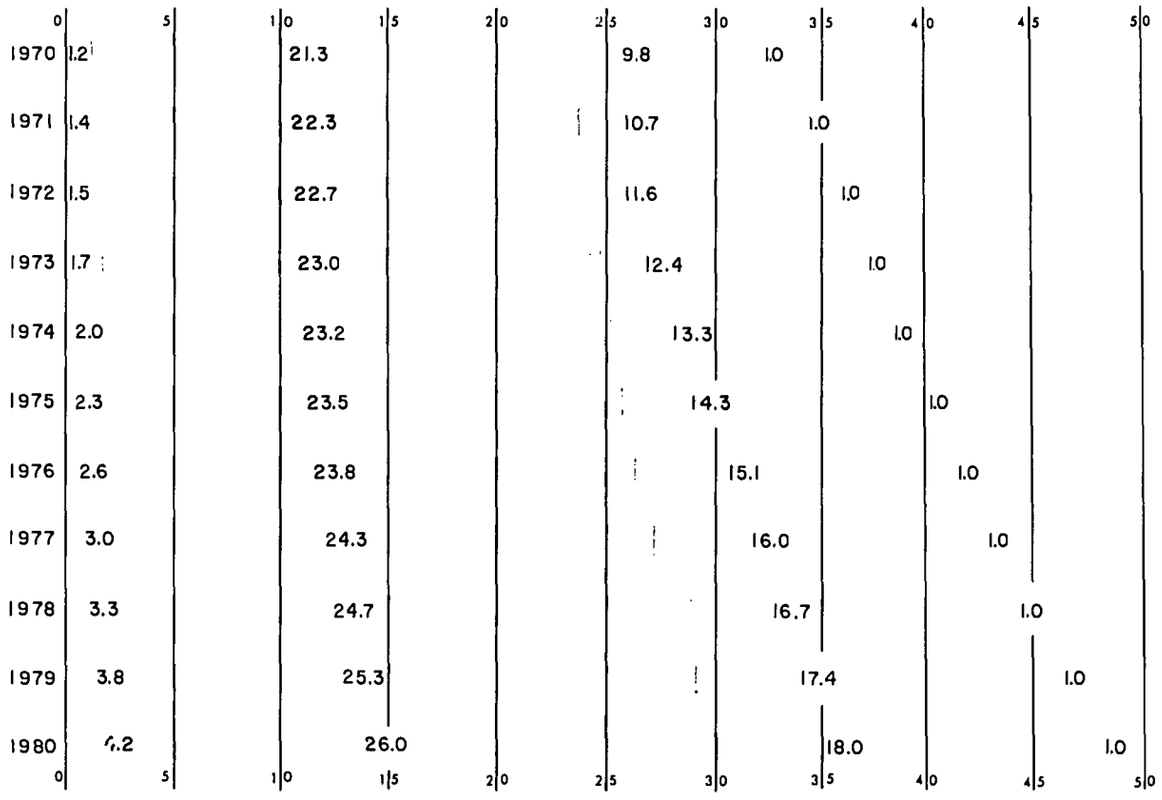
(AT 10 PER CENT AND 20 PER CENT GROWTH)
BILLIONS OF 1970-1971 DOLLARS



Source: Prepared by the Office of State Palnning and Development using unpublished data supplied by the U.S. Office of Education.

SUMMARY OF PROJECTED IMPACT - ALL EDUCATION LEVELS

(BILLIONS OF 1970-1971 DOLLARS)



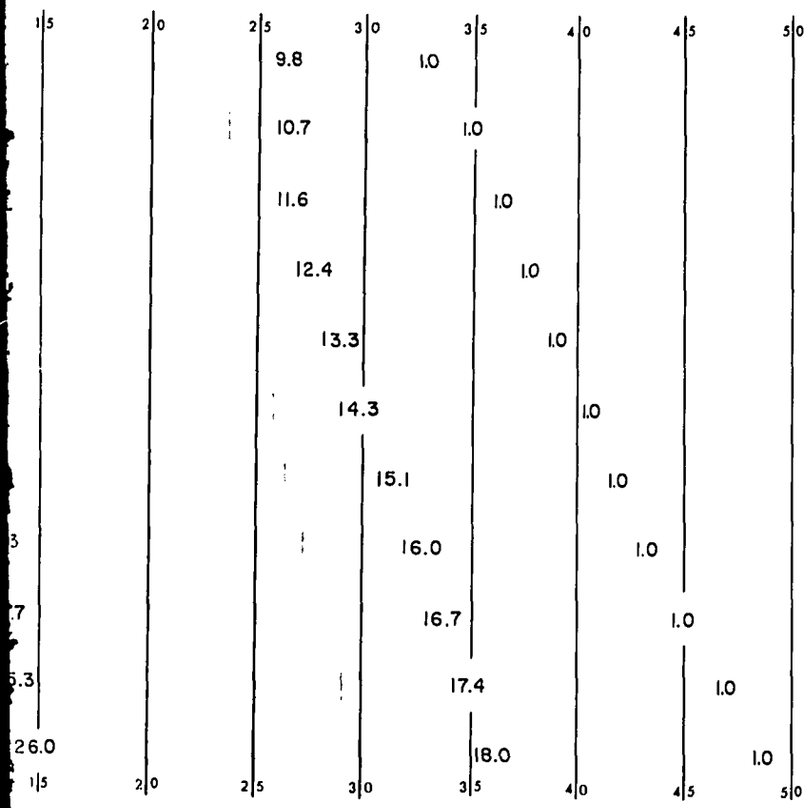
Source: Prepared by the Office of State Planning and Development using unpublished data supplied by the U.S. Office of Education.

If the 10 per cent growth factor were to prevail, 19
greater by 0.4 billion and 1980 costs by 0.8

)JECTED IMPACT-ALL EDUCATION LEVELS

(BILLIONS OF 1970-1971 DOLLARS)

GRAPH 3



PRIMARY/SECONDARY
AT 50 PERCENT NETF FUNDING

POST-SECONDARY AT
60 PERCENT NETF FUNDING
AND 5 PERCENT PRE-NETF PROJECTIONS

ADULT BASIC EDUCATION AND
MANPOWER RETRAINING
(ESTIMATE)

ument using unpublished

If the 10 per cent growth factor were to prevail, 1970 costs would be greater by 0.4 billion and 1980 costs by 0.8 billion